Decentralization and voter turnout

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Abstract. With this paper we study the impact of decentralization on turnout. We test the hypotheses that decentralization increases turnout in subnational elections, lowers participation in national elections, and reduces the gap between regional and national arenas. A comparative cross-national analysis does not show any significant effect of decentralization on turnout in national elections. But we take a closer look at two countries, Canada and Spain, where fiscal decentralization has taken place during the past decades. In both countries the empirical evidence suggests that decentralization has contributed to reducing the turnout gap between regional and national elections.

Introduction

With this paper we analyze the impact of decentralization on turnout in elections. When power is decentralized in a given country, one of the consequences is that subnational governments that are granted more power are expected to be more important in voters' eyes, and so subnational elections that produce these governments are also expected to be more salient—the ultimate consequence being a higher turnout in those elections. Conversely, central governments in decentralized countries lose some of their authority, which makes them less 'important', and this might contribute to a lower turnout in national elections. As far as we can tell, this simple and intuitively plausible idea has never been put to a systematic empirical test.

Extant research has paid attention to an array of potential consequences of decentralization, including economic growth (see, for instance, Iimi, 2005), social policy and welfare state (see Béland and Lecours, 2010; Greer, 2010), electoral accountability (Lago-Peñas and Lago-Peñas, 2010), or corruption (Fisman and Gatti, 2002). However, consequences of decentralization for citizens and their levels of political support have been less frequently analyzed. The following analysis is intended to fill a gap in the literature on the political consequences of decentralization.

The paper is organized into two main parts. In the first one we present the theoretical arguments that link decentralization and turnout, and discuss previous research. The second part is devoted to the analysis. This includes a large comparative analysis composed of over 200 general elections in forty countries and a more in-depth analysis of the cases of Spain and Canada. In the final section we discuss our results.

Decentralization and voter turnout

Decentralization and the predictors of voter turnout

Why exactly should decentralization contribute to increased turnout in subnational elections and to lower participation in national elections? The intuitive interpretation sketched above amounts to assuming that people are more prone to voting when the legislature and government to be elected have more power or authority. The theoretical argument has to be fleshed out more precisely.

The basic question is: why should it matter whether the body (legislature and government) to be elected has a lot or just a little power or authority? Or, more precisely, why should an individual citizen be more inclined to vote when the body to be elected has greater leverage? The general response has to be that how much or how little power those to be elected are granted should affect the attitudes or perceptions which have been shown to influence the decision to vote or not to vote.

From a strict rational choice perspective, the expected utility of voting, R, depends on B, the differential benefit associated with the election of various legislators or governments, multiplied by p, the probability of casting a decisive vote, and C, the cost associated with voting (Downs, 1957; Riker and Ordeshook, 1968):

$$R = pB - C.$$

Theoretically, the cost of voting should not be affected by the relative power of the body to be elected, and nor should the probability of casting a decisive vote. The main story has to be in the B term. Think about the election of an institution completely devoid of any power. The individual who has to decide whether to vote or not will come to the conclusion that whoever is elected will make no difference in his or her utility. His or her B will be 0, and that individual will abstain.

In fact an individual's B depends on two factors: how much power the body to be elected is granted and how differently that power is likely to be exercised depending on who wins the election. The incentive to vote is high only if this is a powerful institution *and* if the policies to be adopted will vary substantially depending on who is elected. The B term is thus equal to the 'power' of the institution multiplied by the policy 'differential' associated with alternative outcomes. When decentralization takes place there is some shift of power from the central government to subnational ones. One of the two components of the B term gets smaller for national elections and bigger for subnational ones. If everything else remains the same, this should produce a lower turnout in the former case and a higher turnout in the latter.

This is of course from a rational choice perspective. It is far from clear that the rational choice model is the most fruitful when it comes to explaining the decision to vote or not to vote (Blais, 2000; Green and Shapiro, 1994). In a recent paper, Blais and Achen (2009) argue that the two most important proximate causes of turnout are strength of preference and sense of civic duty. The question is whether decentralization could influence these two attitudes.

Strength of preference is whether the person has a viewpoint to express, whether he or she feels that one of the candidates or parties is 'better' than the other, and/or how much he or she cares about the outcome of the election. The question then becomes whether people are more prone to forming opinions about candidates for more power-ful positions. In order to form opinions about candidates or parties in an election, people must receive messages from or about them (Zaller, 1992). Everything else being equal, more powerful institutions and elections for those positions are more likely to be covered by the media, and it is thus easier for voters to learn about them. But the amount of information that is made available in an election campaign hinges on many other factors, such as the closeness of the race, the candidates' charisma, and the

amount of advertising. The relative power of the institution is only one of the many factors that may affect the propensity to form preferences.

In decentralized political systems parties strengthen their territorial organizations (Hopkin, 2003). While in very centralized countries territorial branches of political parties may (or must) just 'wait for instructions from the centre', in decentralized polities they have their own regional battle to fight: they have to design their own regional electoral strategy and they play a more active role during the campaign. Furthermore, new competitors are likely to emerge as a result of decentralization (Sabatini, 2003). While the change is unlikely to be dramatic (Hopkin and van Houten, 2009), some mobilization processes exist at the regional level in decentralized countries that do not exist in centralized ones. This mobilization should help people to understand what is at stake in regional elections and thus form clearer preferences.

Finally, the process of decentralization often brings along the development of regional mass media (Moragas and Garitaonandía, 1995; Sampedro and van den Bulck, 1995). These regional media outlets make regional political issues, candidates, and parties more visible. This also should facilitate the development of political preferences.

The same logic should apply to sense of civic duty. Those who feel that it is a moral duty to vote in elections should feel the same way, whatever the election. But, of course, there are elections and elections. Some people may feel that it is their duty to go to the polls only in 'meaningful' elections (Blais, 2000, page 110). There are some elections, like school-board elections, not considered to be 'meaningful' elections, which do not appear to elicit feelings of duty. The question thus becomes what distinguishes 'meaningful' from 'nonmeaningful' elections. It makes sense to assume that the more powerful the institution to be elected the more likely the election is to be construed to be meaningful.

Decentralization may also contribute to the creation of new political identities. As Lancaster (1999, page 64) argues, "regardless of territorial, group, or combined notions of representation, federalism creates additional territorial-based citizen–agent relationships." In particular, regional elites may foster the development of regional identities due to "the experience of autonomous political structures, exposure to agencies of regional socialisation and, in some cases, the fostering of vernacular tongues" (Martínez-Herrera, 2002, page 441). If these identities are strong, sense of civic duty in regional elections will also strengthen, at least among those who develop an attachment to the regional community.

In short, decentralization is likely to have some effect on strength of preference and sense of civic duty, and such effects should in turn affect turnout. Still, even if there is an objective increase in the powers of the institution that is being elected, this may not be perceived by most voters, or many citizens may still view the national elections as the only 'real' important ones (Schmitt, 2005, page 668). For these reasons we would expect the impact of decentralization on turnout to be modest, particularly for national elections.

Existing evidence on turnout, second-order elections, and the relevance of parliaments
As far as we can tell, there has been little empirical analysis on the effect of decentralization on turnout as such, which is surprising since many countries have undergone decentralization processes in the last few decades. But is there evidence about the broader (and related) question concerning the link between the relative power of an institution and turnout?

Regional elections can be considered as 'second-order elections', using the term created by Reif and Schmitt (1980) for European Parliament (EP) elections. In these elections people consider there is less at stake and they tend to have a different voting

pattern: they are more prone to abstain, to support small parties, and to 'punish' the party or parties in government (Hix and Marsh, 2007; Schmitt, 2005). This effect of the relative (small) importance of an institution on lower turnout has been confirmed for EP elections.[1] Local elections have also been studied under the same 'second-order effects' model (Rallings and Thrasher, 2005).

Whether regional elections are second-order elections or not is a matter of dispute. Jeffery and Hough (2009) argue that this depends on the degree of decentralization and the presence of regional identities. They compare turnout levels in Germany, Spain, Canada, and the UK. Turnout in regional elections (Länder) is significantly lower than in national elections in Germany, but the gap has decreased over time, possibly as a result of "a greater salience of regional issues in the post-unification context" (page 225). In the UK, turnout in devolved elections in Scotland and Wales is also lower than in national elections. In Spain, too, regional elections show lower levels of turnout, though the gap varies significantly across regions (Pallarés and Keating, 2003; Vallès, 2009). Canada shows a mixed pattern where in some cases turnout is higher in provincial elections than in national elections.

The most striking evidence of a case where a change in the power of an institution led to a substantial change in turnout is provided by Franklin (2004, pages 92 – 96). Franklin notes that turnout in Malta used to be between 70% and 80%, which was quite typical among democracies without compulsory voting, but that in the 1960s it began a progressive rise to over 90%. Franklin attributes the very high contemporary turnout to a variety of factors, one of them being that "Malta is too small to have any local governance ... all policy is ultimately determined by the unicameral parliament in Valetta" (page 95).[2] As for the over time increase in turnout, he argues, quite convincingly, that this is due to the fact that Malta acquired its independence in 1962 and that before that date the decisions of the elected government were subject to ratification by the British-appointed governor. In short, the Maltese government became much more powerful, and this produced a higher turnout.

The argument is highly plausible. It makes eminent sense to believe that one reason why turnout is so high in Malta is that power is all concentrated in the national government.[3] It is also hard not to believe that the major cause for the rise in turnout was its new independence (and thus increased power). At the same time, however, we should be wary of generalizing on the basis of a single case. Furthermore, this may indicate only that a *drastic* devolution of power affects turnout. It remains to be seen whether more standard (limited) transfers produce any effects.[4]

The case of Switzerland has also deserved some attention, as it shows particularly low turnout rates (below 50% since the late 1970s) and a peculiar institutional setting as it concerns the relevance of the national parliament. The intensive use of direct democracy hinders the power of this institution, as many important decisions that in other countries are usually reserved to the national parliaments are directly taken by citizens. Elections are indeed considered as less important than referenda by Swiss citizens (Farago, 1996). Besides, Swiss elections rarely imply a change of government, as all main parties are usually included in the cabinet. Switzerland is of course a federal decentralized country. All these features make up a rather exceptional situation

[1] It remains to be explained, however, why turnout in European elections has declined at the same time as the powers of the European Parliament have increased.
[2] His interpretation is based in good part on Hirczy (1995).
[3] This is not quite true any more since Malta's entry into the European Union.
[4] Franklin (2004) also notes that the increase in turnout in Malta was gradual, suggesting that only the new cohorts responded to the change. Another interpretation is that strength of preference and sense of civic duty change only gradually.

that produces a national parliament of particularly low leverage. However, it is difficult to disentangle which of these characteristics are responsible for the low Swiss turnout rates, and what is the specific role of decentralization.

The question then is whether there is systematic evidence that variations in the power of institutions across countries or over time are associated with turnout variations. The specific point that has been most extensively examined in the literature is whether turnout is higher in countries where power is concentrated in one legislature than in those where it is shared between a lower and an upper house. The hypothesis was first formulated by Jackman (1987, page 408) who argued that "elections for the lower house play a less decisive role in the production of legislation where bicameralism is strong."

Some studies report a positive correlation between unicameralism and turnout (Fornos et al, 2004; Jackman, 1987; Jackman and Miller, 1995) but many find no relationship (Blais and Carty, 1990; Pérez-Liñán, 2001; Radcliff and Davis, 2000). Perhaps surprisingly, then, it is not clear whether the fact that some of the power of the lower house is shared with a higher house produces a lower turnout for lower house elections.

Another possibility is that turnout in parliamentary elections is reduced when and where some of the power of the legislature has to be shared with a president. To the best of our knowledge, no one work has carefully tested whether turnout declines in legislative elections when there is an elected president and, especially, when there is a powerful president. Franklin (2004) does show, however, that 'executive responsiveness'—that is, whether the legislature can dismiss the executive—is associated with higher turnout in legislative elections. At least this crucial ingredient of parliamentary power does seem to make a difference. But the same logic does not seem to apply to turnout in presidential elections. Dettrey and Schwindt-Bayer (2009, page 1331) find that turnout in presidential elections is not affected by the amount of power that the president has. In fact, "all the coefficients are negative, thus suggesting that powerful presidents deter voters from the polls." Again, the findings seem to be inconsistent.

Another dimension of power sharing, conceptually close to decentralization, is the existence of federal institutions, which imply some division of responsibilities between the central and the subnational governments. The fact that the central government has less power in a federal than in a unitary country could contribute to a lower turnout in national elections among the former. But both Blais and Carty (1990) and Black (1991) report no such correlation.

All the above studies [except that of Dettrey and Schwindt-Bayer (2009), which deals with presidential elections] have looked at the relationship between a specific indicator of power sharing with other institutions and turnout in the lower house election. For their part, Siaroff and Merer (2002) consider four different aspects: whether the country is bicameral, whether there is a 'relevant' (strong or moderately strong) president, whether there are strong regional governments (elected and accounting for at least 20% of total government spending), and whether the country is part of the European Union. Only one of the four aspects (the presence of a relevant elected president) emerges as a significant factor.[5] Anduiza (1999, page 162) considers the institutional relevance of national parliaments as inversely related to the existence of an elected president, regional parliaments with political autonomy, and direct democracy institutions. However, only the last variable (basically reflecting the specific Swiss case) remains a significant predictor of turnout in national elections in Western Europe,

[5] The presence of strong regional governments comes out as significant in some of the estimations but not in Siaroff and Merer's model 3, which includes a dummy for Switzerland and which is their preferred model.

once the relevant controls are introduced (Anduiza, 1999, page 175). Another approach is to utilize multiple indicators. Blais and Dobrzynska (1998) construct a 'decisiveness' scale that goes from 0 to 1 depending on the presence or absence of upper house direct elections, direct presidential elections, and federal institutions.[6] They find a relatively strong correlation between decisiveness and turnout.

To say the least, previous research has not produced consistent findings. Most of these studies consider only one aspect and that aspect is often measured only approximately, sometimes with the use of dummy variables. It is interesting, in this regard, that the study that employed multiple indicators (Blais and Dobrzynska, 1998) produced more positive results. From this review, it is not absolutely clear that people are more or less inclined to vote depending on the power of the body to be elected. But this may not be too surprising. On theoretical grounds, we would expect the relative power of an institution to play only indirectly and to be only one among many other relevant contextual predictors. That being said, we do expect citizens' decisions to vote or not to vote to be affected somewhat by how much or how little power those to be elected can exercise.

We can thus summarize our predictions as follows:
- Turnout in national elections is slightly lower when and where there is greater decentralization;
- turnout in regional elections is slightly higher when and where there is greater decentralization;
- as national institutions manage to retain high levels of visibility in spite of decentralization processes, we expect the effect of decentralization to be smaller for national elections than for regional elections.

Analysis
We now turn to testing our expectations. For this purpose we undertake two strategies. First we perform a large-n comparative cross-national perspective that tests the hypothesis that decentralized countries present different turnout rates than centralized ones. Then we perform a more detailed analysis of two cases that have undergone decentralization processes, Canada and Spain. This allows us to test whether these processes have had an effect on the levels of turnout of both general and regional elections.

The cross-national evidence
In a first step we wish to test the hypothesis that turnout in national elections is lower when and where there is greater decentralization—that is, there is more power sharing between national and subnational governments. We have no comparative cross-national data for turnout levels in regional elections. This is unfortunate because it is for those elections that we would expect clearer effects. However, this limitation will be overcome in the country-specific analyses performed later.

We take as our starting point a 'standard' model of turnout that does not include decentralization, and then we include indicators of decentralization and see whether those indicators are correlated (negatively) with turnout in national elections, once we control for those other factors that have been shown to affect electoral participation. The initial model is borrowed from Blais and Dobrzynska (2009), which is an update of Blais and Dobrzynska (1998). The dataset covers 536 lower house democratic elections held between 1972 and 2005 in eighty-eight countries. An election is deemed

[6] The maximum score of 1 is obtained when and where there are no (nonconcurrent) upper house, presidential, or subnational elections, and the minimal value of 0 when two other (upper house, subnational, or presidential) elections are held nonsimultaneously.

to be democratic when and where the country obtained a score of 1 or 2 on the Freedom House ratings of political rights.

We include in our baseline model: compulsory voting, new democracy, low voting age, proportional representation, and decisiveness, plus a dummy for Switzerland.[7] We have two sources for decentralization indicators. The first comes from Marks et al (2008; see also Hooghe et al, 2008) and provides scores for regional authority for forty-two countries during the period 1950–2006.[8] The second comes from the World Bank and provides indicators of fiscal decentralization for over 100 countries during the period 1972–2000; this dataset has, however, many missing observations. These sources do not cover the same countries and time period. When we add the authority indicators to our turnout dataset, the number of observations drops to 224 and the number of countries drops to forty. Similarly, with the fiscal data, the number of observations is reduced to 209 and 210. The descriptive statistics are presented in tables A1–A3 in the appendix.

Table 1 (column 1) shows the results when Marks et al's (2008) index of regional authority is included in our estimations. These authors distinguish two basic dimensions of regional authority: self-rule, defined as the authority exercised by a regional government over those who live in its territory, and shared rule, which corresponds to authority exercised by a regional government or its representatives in the country as a whole. They have four indicators for each of these two dimensions and they construct a regional authority index. This index is added to our baseline model. There is simply no relationship between the regional authority index and turnout, while the other variables all have the expected statistically significant coefficients.

Table 1. Decentralization and turnout in national elections.

	Authority B (se)	Revenue B (se)	Spending B (se)
Compulsory voting	16.12*** (1.85)	16.85*** (2.23)	15.88*** (2.11)
Age 18	−4.16** (1.43)	−4.34* (1.83)	−4.13* (1.82)
Proportional representation	5.55*** (1.25)	4.06** (1.44)	3.29* (1.42)
Switzerland	−34.12*** (3.30)	−34.80*** (4.68)	−33.02*** (4.56)
New democracy	−9.39*** (1.57)	−8.06*** (2.41)	−8.74*** (2.39)
Decisiveness	7.04*** (2.01)	4.27 (2.50)	3.42 (2.41)
Authority/revenue/spending	0.27 (2.99)	6.63 (5.22)	0.78 (4.17)
Constant	73.50*** (2.11)	74.38*** (3.27)	76.72*** (3.13)
R^2	0.57	0.39	0.39
N	224	210	209

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.
Note: cluster by country; B = regression coefficient; se = standard error.

[7] We included all the variables that are statistically significant at the 0.05 level in the final estimation presented by Blais and Dobrzynska (2009, table 4, column 1), except GDP per capita, which has many missing observations.
[8] The countries that are included are OECD countries, members of the European Union, plus Albania, Bosnia and Herzegovina, Croatia, Macedonia, Russia, Serbia, and Montenegro.

Another approach is to use fiscal data for our measure of decentralization. We use two indicators: subnational government expenditure as a proportion of total government expenditure, and subnational revenue as a proportion of total revenue. The results are presented in columns 2 and 3 of table 1. Here, again, we find no correlation between fiscal decentralization and turnout.

These data fail to confirm the hypothesis that decentralization contributes to lowering turnout in central elections. This nil result is in fact consistent with the ambiguous findings that have been reported in previous studies about the relationship between the power of an elected body and turnout.

A closer look at two countries: Canada and Spain

The cross-national evidence suggests that decentralization does not have any effect on turnout. The cross-national evidence may not be quite as reliable as we would wish, however. There is the possibility that our model omits some important factor that accounts for variations in turnout across countries.[9] Because it is easier to register in some countries than in others, turnout measures are not strictly comparable.[10] And it is of course extremely difficult to compare decentralization across countries.

For these reasons it may be more fruitful to examine the relationship between decentralization and turnout within a country. We should be less concerned about omitted factors, many of which should not vary within a single country. Turnout is likely to be measured the same way across regions and over time. And it is easier to use the same yardsticks when ascertaining the relative power of regional governments. The only potential drawback is that variation in either decentralization or turnout may be weaker.

We propose a closer analysis of the link between decentralization and turnout in two countries, Canada and Spain. These countries are interesting cases as both have undergone significant decentralization processes, which, according to our initial expectations, should have a (small) effect on the levels of turnout of both national and regional elections. These countries also have systematic publicly available information on our independent and dependent variables of interest: fiscal decentralization and turnout at both national and regional level. We look at variations in decentralization both over time and across regions and determine whether they are associated with variations in turnout. We test the following hypotheses: where and when there is greater decentralization, turnout is lower in national elections, higher in regional elections, and thus the turnout ratio (regional turnout divided by national turnout) is higher. We also examine a subsidiary hypothesis which states that turnout in national elections is higher when and where the region is a net beneficiary of central government policies.

We start with the Canadian case. We have three dependent variables: turnout in federal elections, turnout in provincial elections, and the turnout ratio—which is turnout in provincial elections divided by turnout in the most proximate (in time) federal election in the same province.[11] We have two main indicators of fiscal decentralization:

[9] See Blais (2006) for a discussion of the limitations of cross-national studies of turnout.

[10] This problem arises only if and when turnout is measured as a percentage of those registered. But the problems are at least as serious when one measures turnout as a percentage of those eligible to vote, as these estimates can be biased in many ways (see Blais and Aarts, 2006).

[11] Turnout in federal elections: 1960–84 (Feigert, 1989); 1988–2005 (http://elections.ca). The turnout in provincial elections: using data from the official websites: http://elections.ab.ca; http://elections.bc.ca; http://elections.gov.nl.ca; http://elections.sk.ca; http://gnb.ca/elections; http://electionsmanitoba.ca; http://elections.on.ca; http://electionsquebec.qc.ca; electionspei.ca. Data for Manitoba (1958), Saskatchewan (1960–86), Alberta (1957–75), and British Columbia (1960–80) are from Simerl (1982). The (1991–2003) data for Saskatchewan are from Elections Saskatchewan: *Statement of Votes*, 25th Provincial General Election, 5 November 2003 (page 138).

provincial government spending divided by federal government spending in the same province, and provincial government independent revenue divided by federal government revenue from the same province (Statistics Canada at http://estat.statcan.gc.ca).[12] We also include three control variables: per capita gross domestic product (GDP), population size, and electoral competitiveness (seat share gap between the first and second parties). The descriptive statistics can be found in tables A1–A3 in the appendix.

The data cover the 1960–2005 period. We have ten provinces, an average of twelve provincial elections per province, and a total of 117 observations.[13] Figures 1(a) and 1(b)
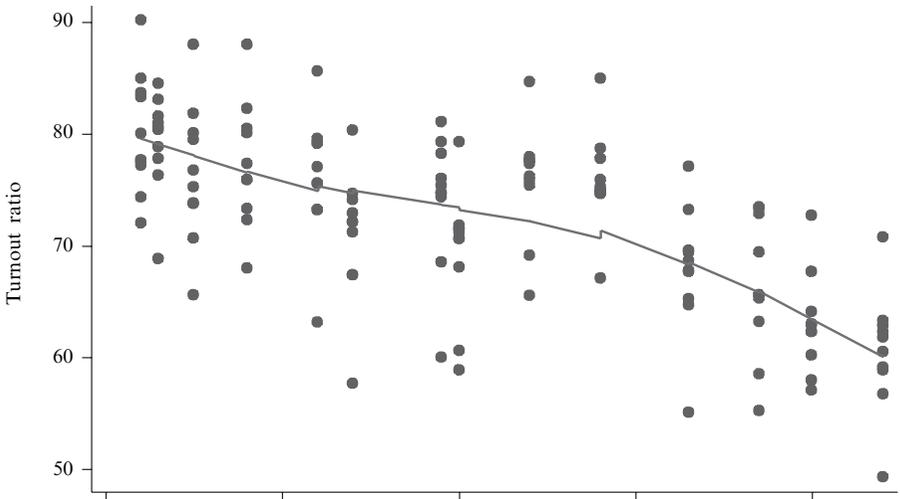

(a)

(b)
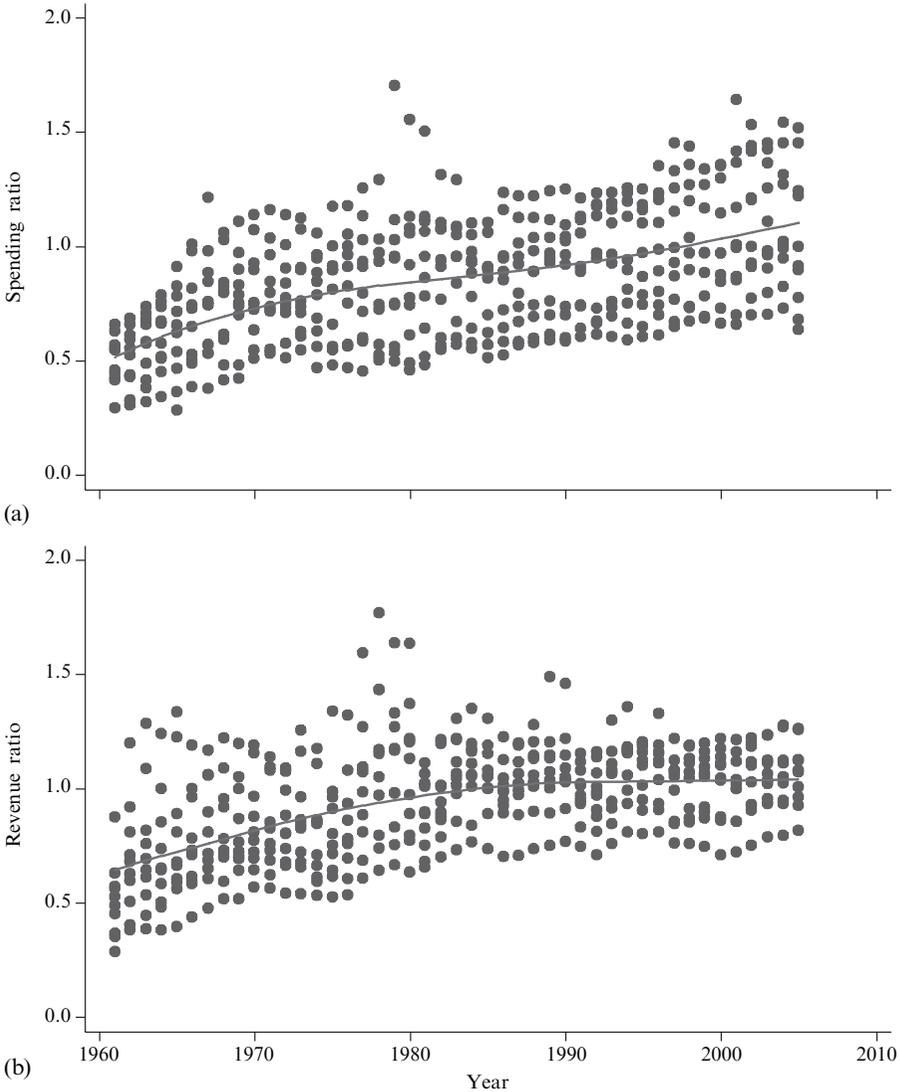
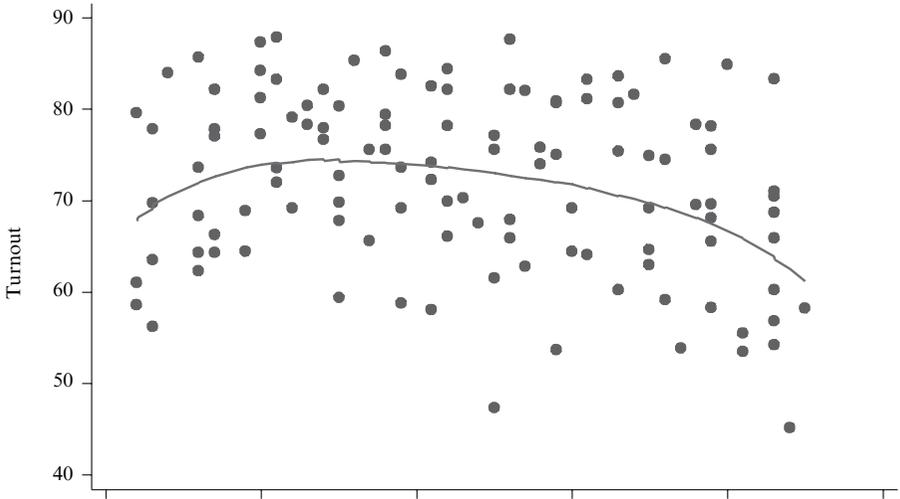Notes: Bandwidth = 0.8; regression carried out using Lowess smoother.

Figure 1. The evolution of (a) the spending ratio and (b) the revenue ratio in Canada.

[12] We cannot use the regional authority index since it is constant across provinces and over time in Canada.
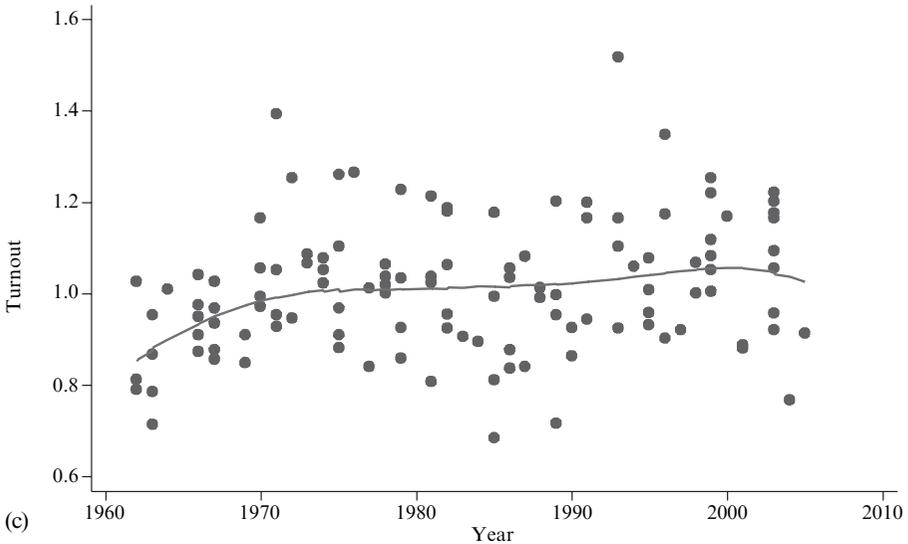[13] We have fourteen federal elections, which yield a total of 140 observations for analyses of turnout in federal elections.

(a)

(b)

(c)

Notes: Bandwidth = 0.8; regression carried out using Lowess smoother.

Figure 2. The evolution of (a) the turnout in federal elections, (b) the turnout in provincial elections, and (c) turnout ratio in Canada.

show the evolution of fiscal decentralization over time. We observe a substantial increase in decentralization with respect to both spending and revenue. The spending ratio more or less doubles over the period, going from about 0.5 to slightly over 1. The increase in the revenue ratio is not quite as strong and less linear, things being more or less stable over the last twenty years.

Figures 2(a), 2(b), and 2(c) present the evolution of turnout over time. We see that turnout in federal elections has dropped from 80% at the beginning of the period to 60% at the end, while turnout in provincial elections, which was typically 70% in the early 1960s, increased slightly initially, and has now dropped to the same level (60%) observed in federal elections. As for the turnout ratio, it was initially only slightly over 0.8, rose to 1.0 from 1960 to 1980, and has remained at that level since.

The highest decentralization ratio for spending is in Alberta (1.3) and the lowest is in Nova Scotia (0.5). With regard to revenue, the mean maximum is observed in Newfoundland (1.2) and the minimum in Ontario (0.6).

Mean turnout over the whole period is 72% for both federal and provincial elections, and thus the mean turnout ratio is 1.0. Mean provincial turnout is highest in Prince Edward Island (PEI) (84%) and lowest in Alberta (58%). Mean federal turnout also reaches its maximum in PEI (80%) but the minimum is obtained in Newfoundland (61%). The latter province has the highest mean provincial–federal ratio (1.2) while Alberta has the lowest (0.8).

We may now proceed to the empirical testing of our hypotheses. The first hypothesis is that fiscal decentralization leads to lower turnout in federal elections. Table 2 shows the results using the spending and revenue ratios, first a simple multivariate model and then a fixed effects model including dummies for each province (except Ontario, the reference category).[14] As expected, the spending ratio has a negative coefficient, which is statistically significant in the fixed effects model. There is no relationship with respect to the revenue ratio. The first hypothesis is thus partially

Table 2. Fiscal decentralization and turnout in Canadian federal elections (FE).

	Turnout B (se)	Turnout (FE) B (se)	Turnout B (se)	Turnout (FE) B (se)
Spending ratio	−8.31	−7.87**		
	(3.73)	(2.19)		
Revenue ratio			−1.87	1.62
			(6.00)	(3.39)
GDP per capita	−3.28***	−3.69***	−4.22***	−4.61***
	(0.61)	(0.58)	(0.85)	(0.65)
Population	0.05	0.10	0.01	0.04
	(0.03)	(0.10)	(0.02)	(0.07)
(No) competition (federal)	1.57	−0.20	1.13	0.04
	(2.08)	(1.03)	(2.30)	(1.16)
Constant	81.89***	77.37***	79.12***	76.35***
	(2.74)	(7.78)	(3.35)	(5.90)
R^2	0.48	0.79	0.44	0.77
N	140	140	140	140

** $p < 0.01$; *** $p < 0.001$.
Note: cluster by province; B = regression coefficient; se = standard error.

[14] The correlations between decentralization indicators and the control variables are not too strong to raise concerns about collinearity. The highest correlations are between the spending ratio and GDP (0.63) and population size (0.48).

Table 3. Fiscal decentralization and turnout in Canadian provincial elections.

	Turnout B (se)	Turnout (FE) B (se)	Turnout B (se)	Turnout (FE) B (se)
Spending ratio	−8.66	11.18		
	(8.51)	(5.32)		
Revenue ratio			13.69*	5.02
			(5.54)	(4.20)
GDP per capita	−2.42	−3.67***	−4.57**	−2.96***
	(1.11)	(0.56)	(1.04)	(0.58)
Population	−0.04	−0.04	−0.03	−0.01
	(0.06)	(0.09)	(0.06)	(0.09)
(No) competition (provincial)	−2.12	−2.29	−2.13	−1.47
	(4.69)	(3.64)	(5.76)	(3.23)
Constant	85.10***	64.01***	67.69***	67.15***
	(5.91)	(7.47)	(5.66)	(6.66)
R^2	0.32	0.75	0.36	0.74
N	117	117	117	117

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.
Note: cluster by province; B = regression coefficient; se = standard error; FE = federal election.

confirmed, at least when spending is considered, which makes sense if we assume that government spending is more visible than taxation.

According to the same logic, fiscal decentralization should have contributed to increasing turnout in provincial elections. As can be seen in table 3, the results are somewhat ambiguous. The revenue ratio has a positive coefficient, but that coefficient is not significant in the fixed effects model. In the first estimation the spending ratio has the wrong sign but it becomes positive and close to being significant in the fixed effects estimation. There is thus only weak support for the second hypothesis.

The most telling indicator, in our view, is the turnout ratio. The advantage of this ratio is that the factors that make people generally more or less prone to vote in certain provinces or at certain time periods are implicitly controlled as they should similarly affect turnout in provincial and federal elections. Table 4 shows significant and positive coefficients for the revenue ratio in the simple multivariate model and for the spending ratio in the fixed effects estimation. If we take the fixed effects model, which we believe to be the most reliable, it is the spending ratio that is the most clearly associated with turnout. The results suggest that, when the spending decentralization ratio increases by 0.1, the turnout ratio increases by 0.026. The spending ratio rose by about 0.5 between 1960 and 2005, and this seems to have produced an increase of 0.13 in the turnout ratio. Turnout used to be slightly higher in federal than in provincial elections but there is now little difference, a reflection of the fact that provincial governments have come to spend as much as the federal government.

The final hypothesis to be examined is that turnout in the federal election is higher in provinces that are the net beneficiaries of federal government intervention. The idea is that those provinces are more dependent on federal aid and so the stakes are perceived to be higher in federal elections. The implicit assumption is that government spending is more visible than government taxation, and so voters are more inclined to turn out at the polls when they receive a lot than when they give a lot.[15]

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[15] That assumption is consistent with the observation that the spending decentralization indicator yields more significant findings than the revenue indicator.

Table 4. Fiscal decentralization and turnout ratio in Canada (provincial/federal).

	Turnout ratio *B* (se)	Turnout ratio (FE) *B* (se)	Turnout ratio *B* (se)	Turnout ratio (FE) *B* (se)
Spending ratio	−0.07	0.26***		
	(0.13)	(0.05)		
Revenue ratio			0.28*	0.03
			(0.10)	(0.09)
GDP per capita	0.01	0.00	−0.02	0.02
	(0.02)	(0.01)	(0.02)	(0.01)
Population	−0.00	−0.00	−0.00	−0.00
	(0.00)	(0.00)	(0.00)	(0.00)
(No) competition (federal)	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Constant	1.08***	0.84**	0.78***	0.92***
	(0.09)	(0.20)	(0.07)	(0.16)
R^2	0.10	0.64	0.23	0.61
N	117	117	117	117

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.
Note: cluster by province; *B* = regression coefficient; se = standard error; FE = federal election.

For that last hypothesis, the independent variable is the spending – revenue ratio — that is, total federal government spending in a province divided by total federal revenue coming from that province. The mean ratio for the whole period is 1.9. The ratio slightly decreased over time as federal spending grew somewhat less rapidly than federal revenues (figure 3). The ratio is highest in Newfoundland (with a mean of 2.9) and lowest in Alberta (0.7).[16]

Table 5 presents the findings. The simple multivariate model shows no relationship between net benefits and turnout in the federal election but the fixed effects model does yield a significant positive coefficient. This seems to confirm that net dependency on federal government fiscal policies contributes to a higher turnout in federal elections.[17]

All in all, the Canadian data tend to confirm the existence of a link between decentralization and turnout. If we use the spending indicator (which we believe to be the most relevant) and the fixed effects model (which is more reliable), we find support for three of the four hypotheses that were formulated. Decentralization seems to be associated with lower turnout in federal elections and with a higher provincial – federal turnout ratio, and turnout in federal elections appears to be higher in provinces that receive more than they contribute to the federal treasury. The results are not always consistent but we would argue that the overall evidence suggests that decentralization has some (weak) effect on turnout in Canada.

In the Spanish case, the dependent variables are turnout in elections to the Spanish parliament (general elections), turnout in regional elections to the parliaments of the Comunidades Autonomas, and the turnout ratio (turnout in regional elections divided by turnout in general elections). As in the Canadian case, fiscal decentralization is

[16] The ratio is highest in the smallest and poorest provinces.
[17] We also performed fixed effects estimations of the impact of the spending – revenue ratio on federal and provincial turnout. The ratio is not correlated with turnout in provincial elections and it is negatively and significantly associated (as it should be) with the provincial – federal turnout ratio.
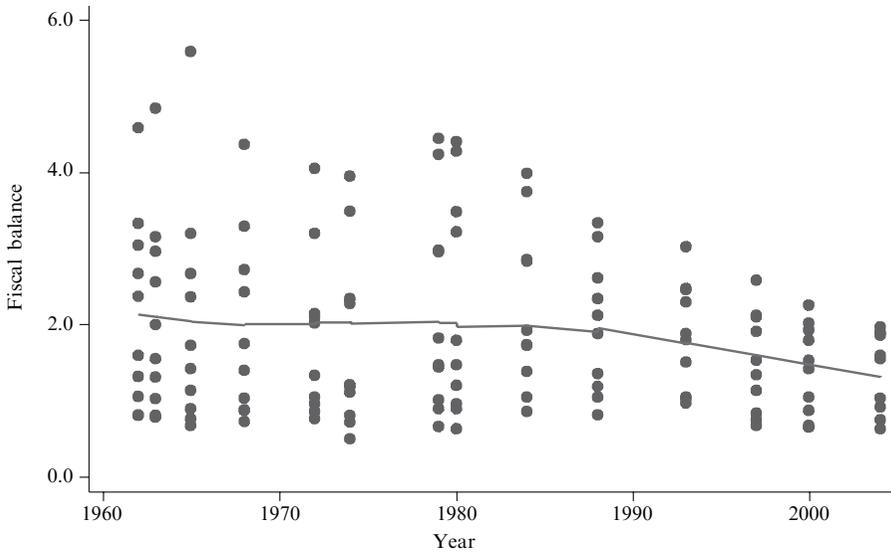
Notes: Bandwidth = 0.8; regression carried out using Lowess smoother.

Figure 3. The evolution of fiscal balance in Canada.

Table 5. Fiscal balance and turnout in Canadian federal elections.

	Turnout B (se)	Turnout (FE) B (se)
Fiscal balance	0.53	2.43*
	(2.16)	(1.02)
GDP per capita	−4.29***	−3.85***
	(0.52)	(0.65)
Population	0.03	−0.02
	(0.01)	(0.07)
(No) competition (federal)	0.94	0.44
	(2.08)	(1.30)
Constant	76.17***	79.47***
	(3.94)	(5.14)
R^2	0.44	0.79
N	140	140

* $p < 0.05$; *** $p < 0.001$.
Note: cluster by province; B = regression coefficient; se = standard error; FE = federal election.

measured by two indicators. The spending ratio is the ratio of the spending by the regional government divided by the spending of the central government in the region. The revenue ratio is the ratio of the revenue of the regional government divided by the revenue of the central government coming from the region. The data exclude transfers between the administrations, which arguably are not visible to citizens.[18]

The controls included are GDP and electoral competitiveness. GDP is an index of the regional GDP per capita where the mean for Spain is 100. Electoral competitiveness is the difference in vote shares between the first and second parties calculated at the national level in general elections, and at the regional level in regional elections.

[18] The data are from Uriel and Barberan (2007) and from the Ministry of Economy (http://serviciosweb.meh.es/apps/CCAApresupuestos/).

In the model that has the turnout ratio as the dependent variable, competition is the ratio between electoral competition in the closest regional and general elections. Some Comunidades Autonomas have their own electoral calendar (Basque Country, Catalonia, Galicia, Andalucia[19]), whereas the other regions hold their regional elections on the same day. A control for non-state-wide regional elections is included, because in these elections media attention is lower, the campaign is less noticeable, and turnout is thus expected to be lower. The descriptive statistics are displayed in tables A1–A3 in the appendix.

The period covered by the data, 1991 to 2005, is shorter than in the Canadian case, because harmonized fiscal decentralization data are available only for those years. There are seventeen Comunidades Autonomas in Spain. Four general elections have been held in the period, resulting in sixty-eight observations; there were also on average four regional elections in each Comunidad Autonoma, adding up to sixty-nine observations (in 2003 the elections to the Madrid region were repeated due to a number of Socialist members of parliament withdrawing their support for their candidate).

Figures 4(a) and 4(b) show the evolution of fiscal decentralization over time in Spain. As in the Canadian case, fiscal decentralization measured by the spending and the revenue ratios has increased over time. The spending ratio almost doubles as it goes from less than 0.2 in 1991 to more than 0.3 in recent years. The revenue ratio doubles over the period. Navarre is a clear outlier with the highest decentralization ratios in both spending (1.38) and revenue (0.61) due to the fact that this region has a special status.

The evolution of turnout in general and regional elections is displayed in figures 5(a) and 5(b), and figure 5(c) shows the turnout ratio. Unlike the Canadian case, voter turnout in Spanish general elections has no clear trend. Since the establishment of democracy it has averaged 74%. Galicia is the Comunidad Autonoma with the lowest mean turnout (64%) whereas the most participatory region is Castilla-La Mancha with a mean turnout in general elections of 79%. Turnout in regional elections has increased slightly over the period. Galicia is again the region with the lowest turnout rates that average just 59%, whereas Castilla-La Mancha has the highest mean participation in regional elections at 75%. The turnout ratio was slightly above 0.8 at the beginning of democracy, and it has now settled at slightly above 0.9. Catalonia has the lowest turnout ratio with a mean of 0.74. The maximum value is in the Basque country with 0.98.

In table 6 we examine whether fiscal decentralization reduces voter participation in general elections. Neither the spending ratio nor the revenue ratio has a significant effect on turnout in any of the models.

Next, we ascertain if fiscal decentralization produces a higher turnout in regional elections. In this case, the results support our theoretical expectations (see table 7). The spending and the revenue ratios are positively and significantly related to turnout in regional elections in the models with fixed effects, which are the more stringent tests of the hypotheses. In the two models with no fixed effects the coefficients are not significant but have the expected direction. Fiscal decentralization is associated with higher turnout rates in regional elections.

This finding is confirmed when the dependent variable is the turnout ratio. As we have argued, this is the most important indicator of the hypothesized phenomenon. The results in table 8 confirm that the spending and the revenue ratio are positively and significantly related to the turnout ratio in all the models examined. As fiscal decentralization grows, the gap between turnout in regional and general elections becomes smaller. As in the Canadian data, the spending ratio is more strongly

[19] Andalusia's regional elections usually take place at the same time as national elections.
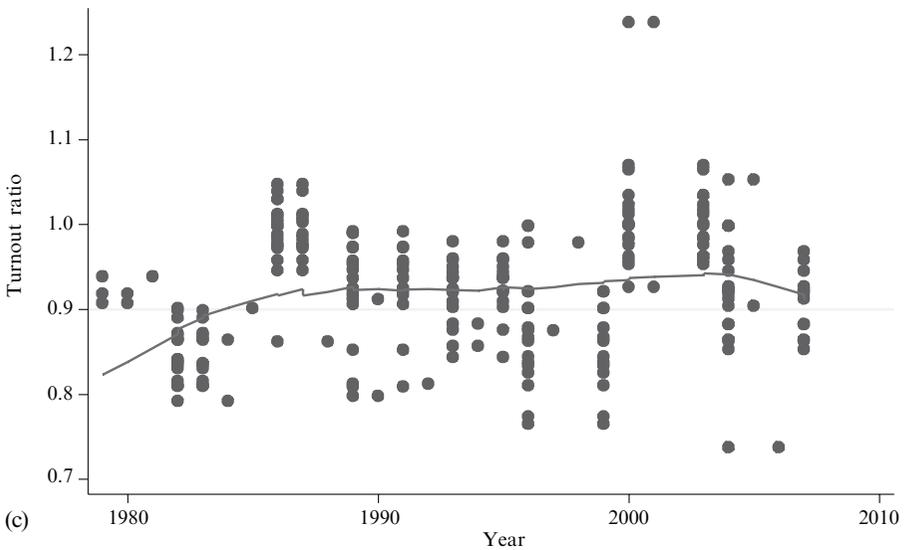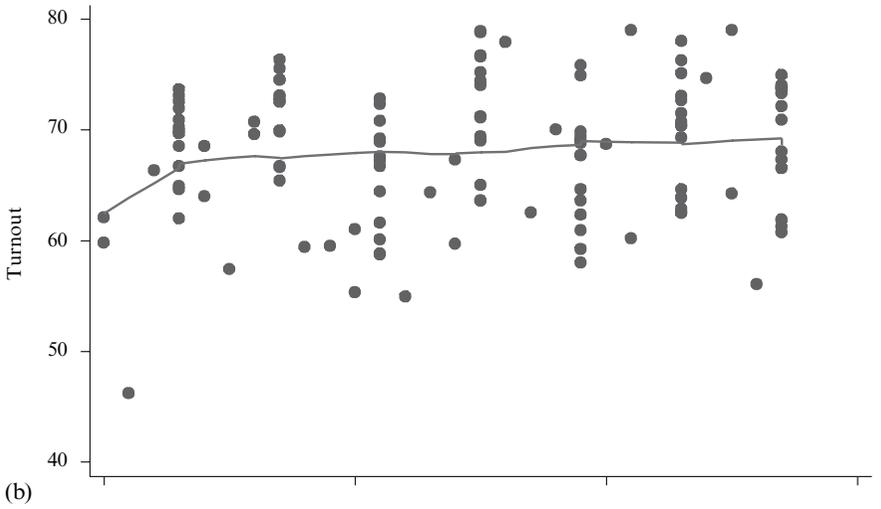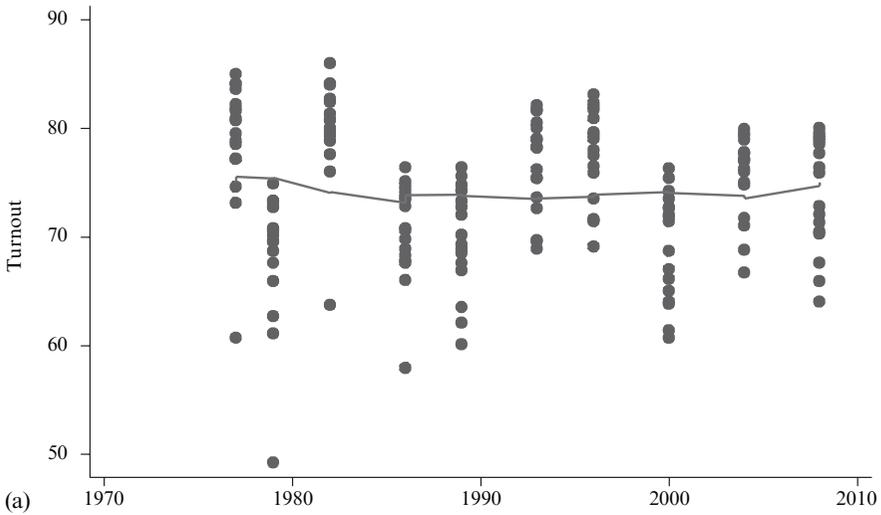
(a)

(b)
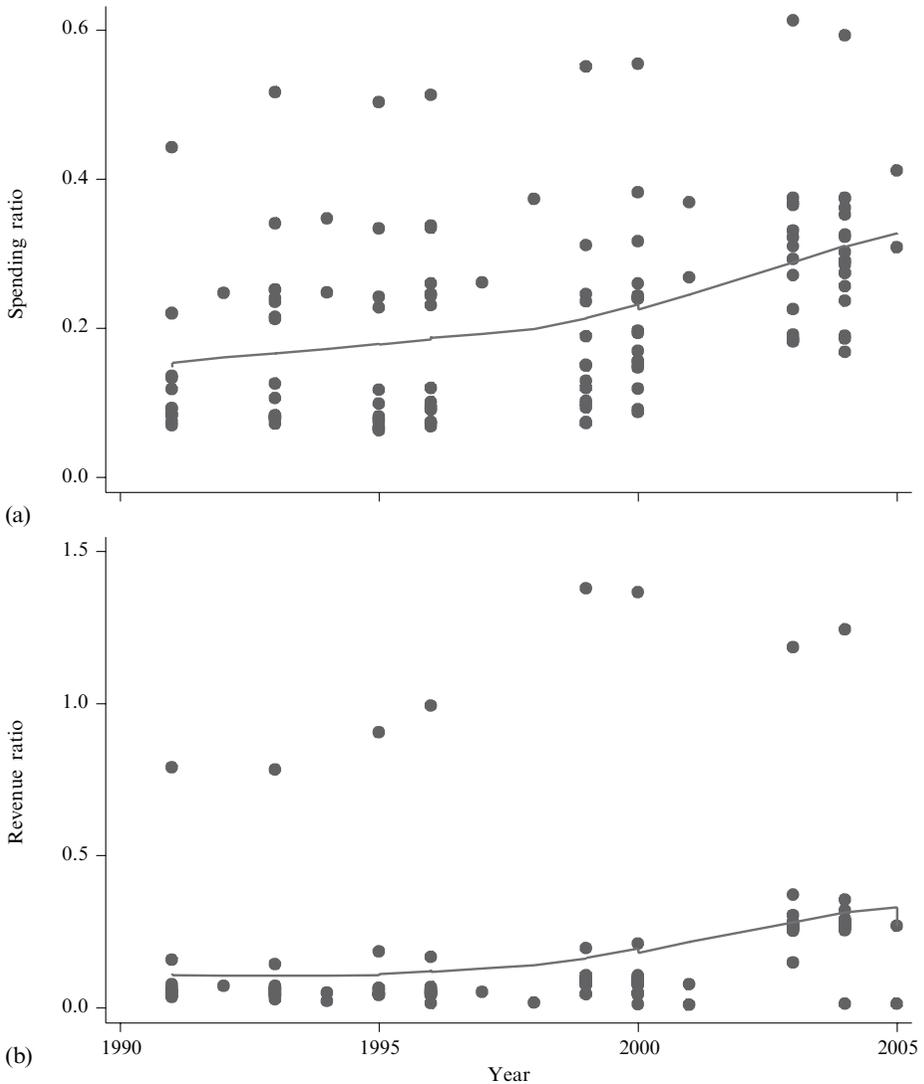
Notes: Bandwidth = 0.8; regression carried out using Lowess smoother.

Figure 4. The evolution of (a) the spending ratio and (b) the revenue ratio in Spain.

associated with the turnout ratio than the revenue ratio. An increase of 0.1 in the spending ratio would produce an increase of about 0.038 in the turnout ratio. Moreover, the coefficients are larger in the fixed effects models.

The final analysis determines whether turnout is higher in general than in regional elections in regions that are net beneficiaries of central government transfers. The independent variable is the ratio of total spending of the central government in a province divided by the total revenue coming from the province. The mean ratio is 1.2 and it is quite stable over the period. The ratio is smallest in Madrid (0.58) and largest in Extremadura (1.8) which is the region that receives most from the central government.

The results in table 9 do not provide clear support for the hypothesis. In both the simple model and the fixed effects model the coefficient is only close to conventional

Notes: Bandwidth = 0.8; regression carried out using Lowess smoother.

Figure 5. The evolution of (a) turnout in general elections, (b) turnout in regional elections, and (c) turnout ratio in Spain.
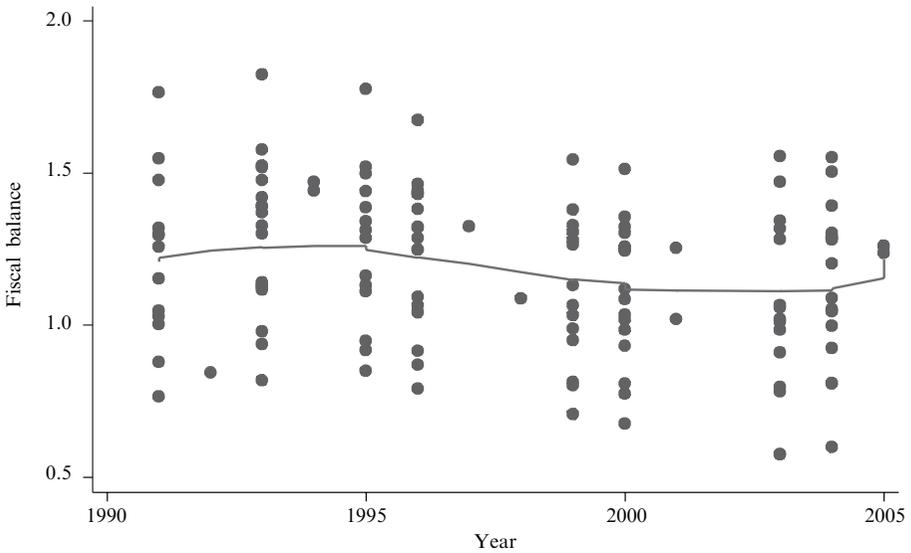
Notes: Bandwidth = 0.8; regression carried out using Lowess smoother.

Figure 6. The evolution of fiscal balance in Spain.

Table 6. Fiscal decentralization and turnout in Spanish general elections.

	Turnout B (se)	Turnout (FE) B (se)	Turnout B (se)	Turnout (FE) B (se)
Spending ratio	−10.06	0.33		
	(6.08)	(2.21)		
Revenue ratio			−1.09	1.43
			(1.44)	(1.51)
Regional GDP per capita	−0.04	0.06	−0.05	0.06
	(0.05)	(0.08)	(0.05)	(0.08)
No competition	−0.87***	−0.92***	−0.91***	−0.92***
	(0.06)	(0.06)	(0.05)	(0.06)
Constant	86.36***	70.07***	82.82***	69.49***
	(4.22)	(5.19)	(4.46)	(6.09)
R^2	0.424	0.925	0.374	0.925
N	68	68	68	68

*** $p < 0.001$.
Note: cluster by province; B = regression coefficient; se = standard error; FE = federal election.

levels of statistical significance. It should be mentioned that once the case of Galicia is excluded the coefficient is statistically significant. This suggests that, as in the Canadian case, net dependency on the central government contributes to a higher turnout in general elections.

The Spanish data provide some support for the hypothesis that decentralization has an influence on voter turnout. More specifically, decentralization seems to produce higher voter turnout in regional elections and, as a consequence, a lower turnout gap between general and regional elections.

Table 7. Fiscal decentralization and turnout in Spanish regional elections.

	Turnout B (se)	Turnout (FE) B (se)	Turnout B (se)	Turnout (FE) B (se)
Spending ratio	9.29 (4.90)	8.59* (3.67)		
Revenue ratio			1.20 (2.20)	5.72* (2.19)
Regional GDP per capita	−0.11 (0.05)	0.08 (0.11)	−0.11 (0.06)	0.08 (0.10)
No competition	0.02 (0.10)	0.02 (0.09)	0.01 (0.10)	0.01 (0.09)
Non-state-wide elections	−4.37 (3.07)	−3.19*** (0.37)	−3.32 (3.51)	−2.69** (0.84)
Constant	77.69*** (5.50)	64.01*** (8.99)	79.14*** (5.94)	65.36*** (7.84)
R^2	0.206	0.671	0.173	0.671
N	69	69	69	69

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.
Note: cluster by province; B = regression coefficient; se = standard error; FE = federal election.

Table 8. Fiscal decentralization and turnout ratio in Spain (regional/general).

	Turnout B (se)	Turnout (FE) B (se)	Turnout B (se)	Turnout (FE) B (se)
Spending ratio	0.31*** (0.07)	0.38*** (0.07)		
Revenue ratio			0.09* (0.04)	0.27* (0.12)
Regional GDP per capita	−0.00 (0.00)	0.00 (0.00)	−0.00 (0.00)	0.00 (0.00)
No competition (ratio)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Non-state-wide elections	−0.03 (0.04)	−0.05 (0.11)	0.01 (0.05)	−0.03 (0.08)
Constant	0.94*** (0.04)	0.87*** (0.19)	1.00*** (0.05)	0.93*** (0.18)
R^2	0.243	0.425	0.091	0.440
N	69	69	69	69

* $p < 0.05$; *** $p < 0.001$.
Note: cluster by province; B = regression coefficient; se = standard error; FE = federal election.

Conclusion

Decentralization is expected to affect voter turnout. It makes regional or subnational elections more relevant and visible and thus it should increase turnout in those elections. It should also reduce the turnout gap between the regional and the national electoral arenas. It may also reduce turnout in general elections as national parliaments lose some of their competences. These effects are, however, indirect, as they are expected to impact turnout through the perceptions and attitudes of citizens. Thus we do not expect as large changes as those produced by other contextual characteristics

Table 9. Fiscal balance and turnout in Spanish general elections.

	Turnout B (se)	Turnout (FE) B (se)
Fiscal balance	−8.01	1.48
	(4.39)	(4.09)
Regional GDP per capita	−0.13*	0.06
	(0.05)	(0.08)
No competition	−1.03***	−0.89***
	(0.08)	(0.09)
Constant	102.66***	72.64***
	(8.99)	(8.09)
R^2	0.432	0.925
N	68	68

* $p < 0.05$; *** $p < 0.001$.
Note: cluster by province; B = regression coefficient; se = standard error; FE = federal election.

more directly related to voting, such as compulsory voting, but rather small changes in turnout levels.

A comparative cross-national analysis does not show any significant effects of different indicators of decentralization on turnout in national elections (unfortunately, comparative data on subnational elections were not available). It may be that national parliaments manage to keep visibility and symbolic weight in spite of decentralization. But it may also be that some uncontrolled factors bias these results.

This induced us to have a closer look at two countries, Canada and Spain, which have increased their levels of fiscal decentralization during the past decades. Hopefully, omitted factors are less of a concern when we are looking at variations within a specific country. The analysis of these cases shows that decentralization increases turnout rates in regional elections and reduces the differences in turnout between regional and national elections in both countries. However, only for the case of Canada do we find that decentralization decreases the turnout rate of national elections.

These two countries have experienced very different trends in turnout in the recent past. In Canada turnout has been going down substantially at both the federal and provincial level, in good part because of lower participation rates among more recent cohorts (Blais et al, 2004). Clearly, decentralization is *not* the main reason why turnout has declined in Canadian federal elections, since turnout also went down in Canadian provincial elections. Spain, for its part, is one of the few countries where turnout in general elections has not decreased in the last three decades (see Blais, 2007).

Other factors are obviously at work. We would argue, however, that these other factors are controlled for when we examine the turnout ratio in regional versus national elections. When we do so, the findings are consistent in the two countries—that is, there is a small but significant effect of decentralization on relative participation in regional elections, compared with national elections, which corresponds to our theoretical expectations.

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Appendix

Table A1. Descriptive statistics, cross-national dataset: (a) regression with authority; (b) regression with reference; (c) regression with spending.

Variable	N	Mean	SD	Minimum	Maximum
(a)					
Voter turnout in national elections	224	78.10	12.85	42.2	96.3
Compulsory voting	224	0.23	0.34	0.0	1.0
Age 18	224	0.79	0.41	0.0	1.0
Proportional representation	224	0.67	0.47	0.0	1.0
Switzerland	224	0.04	0.19	0.0	1.0
New democracy	224	0.20	0.40	0.0	1.0
Decisiveness	224	0.72	0.29	0.0	1.0
Authority	224	0.33	0.23	0.0	1.0
(b)					
Voter turnout in national elections	210	78.25	12.32	33.0	96.50
Compulsory voting	210	0.10	0.31	0.0	1.00
Age 18	210	0.82	0.38	0.0	1.00
Proportional representation	210	0.66	0.47	0.0	1.00
Switzerland	210	0.02	0.15	0.0	1.00
New democracy	210	0.09	0.29	0.0	1.00
Decisiveness	210	0.75	0.30	0.0	1.00
Revenue	210	0.21	0.15	0.0	0.62
(c)					
Voter turnout in national elections	209	78.50	12.18	33.00	96.5
Compulsory voting	209	0.11	0.32	0.00	1.0
Age 18	209	0.83	0.37	0.00	1.0
Proportional representation	209	0.67	0.47	0.00	1.0
Switzerland	209	0.02	0.15	0.00	1.0
New democracy	209	0.09	0.29	0.00	1.0
Decisiveness	209	0.75	0.30	0.00	1.0
Spending	209	0.31	0.18	0.02	0.7

Table A2. Descriptive statistics, Canada.

Variable	N	Mean	SD	Minimum	Maximum
Voter turnout in federal elections	140	72.4	7.9	49.3	90.2
Voter turnout in regional elections	117	71.9	9.7	45.1	87.9
Turnout ratio regional/general	117	1.0	0.1	0.7	1.5
Spending ratio	140	0.8	0.3	0.3	1.7
Revenue ratio	140	0.9	0.3	0.4	1.6
GDP per capita	140	1.4	1.2	0.1	5.9
Population	140	24.6	28.9	1.1	124.2
No competition (federal)	140	0.5	0.3	0.0	1.0
No competition (provincial)	117	0.4	0.3	0.0	1.0
Fiscal balance	140	1.9	1.1	0.5	5.6

Table A3. Descriptive statistics, Spain.

Variable	N	Mean	SD	Minimum	Maximum
Voter turnout in general elections	68	74.6	5.4	60.7	83.1
Voter turnout in regional elections	69	68.5	6.0	54.9	79.0
Turnout ratio regional/general	69	0.9	0.1	0.7	1.2
Spending ratio	137	0.2	0.1	0.1	0.6
Revenue ratio	137	0.2	0.3	0.0	1.4
Regional GDP per capita	137	99.9	19.5	63.1	139.5
No competition	137	9.1	6.9	0.2	29.5
Non-state-wide elections	137	0.1	0.3	0.0	1.0
Fiscal balance	137	1.2	0.3	0.6	1.8

Note: There are sixty-eight observations for general elections and sixty-nine for regional elections, because in 2003 the region of Madrid repeated the electoral process after a scandal.